Australian Government

MARB031 Maintain marine internal combustion engines, propulsion plant and auxiliary systems

Release: 1

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Modification History

Release 1. New unit of competency. Licensing/regulatory information has been incorporated in accordance with Regulatory requirements. Assessment Requirements have been strengthened in accordance with Regulatory requirements.

Application

This unit involves the skills and knowledge required to complete basic maintenance of marine internal combustion engines, propulsion plant and auxiliary systems.

This unit of competency applies to people working in the maritime industry in the capacity of:

- chief engineer on vessels with an inboard engine with propulsion power <750 kW within the exclusive economic zone (EEZ) or
- second engineer on vessels with an inboard engine with propulsion power <1500 kW, within the EEZ or
- chief or second engineer with an outboard engine with unlimited propulsion power within the EEZ or
- assistant under direct supervision of a chief engineer; and
- worker in an engine room of a vessel < 80 m long with propulsion power <3000 kW.

Licensing/Regulatory Information

Legislative and regulatory requirements are applicable to this unit. This unit is one of the requirements to obtain Australian Maritime Safety Authority (AMSA) certification as a Marine Engine Driver Grade 2 NC, as defined in the National Standard for Commercial Vessels (NSCV) Part D. The AMSA mandated practical assessment (AMPA) is a requirement for AMSA certification. The Australian Maritime Safety Authority (AMSA) mandated practical assessment (AMPA) will cover a range, but not all, of the requirements identified in the Performance Evidence and Knowledge Evidence. The AMPA shall be undertaken in accordance with its instructions.

Assessors of AMPA must hold as a minimum:

- a current certificate of competency issued under Marine Safety (Domestic Commercial Vessel) National Law Act 2012 at the same level as the qualification being assessed with at least 12 months' relevant sea service, or
- a relevant seafarer certificate, as engineer issued under the Navigation Act 2012.

Pre-requisite Unit

Not Applicable

Competency Field

B – Equipment Checking and Maintenance

Unit Sector

Not Applicable

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan maintenance activities	**1.1** Maintenance plan is accessed to determine maintenance requirements for engines, propulsion plant and auxiliary systems
	1.2 Inspections are conducted and additional non-routine maintenance requirements are determined
	1.3 Manufacturer specifications for machinery and equipment are obtained
	1.4 Tasks are planned and sequenced in conjunction with others involved in or affected by maintenance work
	1.5 Consumables and equipment are selected and checked for serviceability
2 Complete preventative maintenance	**2.1** Machinery and equipment is safely isolated according to work health and safety (WHS)/occupational health and safety (OHS) requirements and organisational practices
	2.2 WHS/OHS risk control measures and procedures for carrying out work are followed
	2.3 Work area is prepared
	2.4 Preventative maintenance is carried out in compliance with technical specifications
	2.5 Methods for dealing with unexpected situations are selected on the basis of safety and specified work outcomes
	2.6 Maintenance work is checked to verify that it conforms

		to technical specifications and complies with survey requirements, as required
3 Complete breakdown maintenance	**3.1**	Nature of breakdown is confirmed using maintenance records and or logbook entries related to reported breakdown
	3.2	Restrictions are applied to operations, where necessary, and Master is informed
	3.3	Machinery and equipment is safely isolated according to WHS/OHS requirements and organisational practices
	3.4	Repair work is carried out according to technical specifications
	3.5	Master is notified of completion of repair work and details are documented
4 Complete hull maintenance	**4.1**	Checks of vessel hull, equipment and fittings are carried out according to maintenance schedules, survey requirements and vessel manufacturer instructions
	4.2	Deterioration in vessel structure, equipment and fittings is identified
	4.3	Checks on propeller, stern tube and rudder are carried out in accordance with organisational procedures, safety regulations and survey requirements
	4.4	WHS/OHS risk control measures and procedures for carrying out work are followed
	4.5	Work area is prepared
	4.6	Maintenance work is checked to verify it conforms to technical specifications and complies with survey requirements, as required
5 Clean up and complete documentation	5.1	Work area is cleared and cleaned
	5.2	Materials are disposed of or recycled according to legislative and workplace requirements
	5.3	Tools and equipment are cleaned, checked and stored according to workplace procedures
	5.4	Machinery and equipment is returned to service and monitored for correct operation according to

organisational practices

5.5 Maintenance report is completed according to workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Non-essential conditions may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to MARB006 Maintain marine internal combustion engines, propulsion plant and auxiliary systems.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=772efb7b-4cce-47fe-9bbd-ee3b1d1eb4c2